MEETING MINUTES

HANFORD ADVISORY BOARD (HAB)
River and Plateau Committee (RAP)
May 11, 2021
Virtual Meeting via Microsoft Teams

Topics in this Meeting Summary

This is only a summary of issues and actions discussed at this meeting. It may not represent the fullness of represented ideas or opinions, and it should not be used as a substitute for actual public involvement or public comment on any particular topic unless specifically identified as such.

Opening

Stan Branch, US Department of Energy (DOE), announced that this meeting was being held in accordance with the Federal Advisory Committee Act.

Ruth Nicholson, HAB Facilitator, welcomed meeting participants and provided an overview of the meeting agenda, including changes made based on the availability of presenters that day.

The Committee adopted the draft meeting summary for the RAP meeting held April 13, 2021, citing only minor typographic changes.

Tom Sicilia, Oregon Department of Energy and RAP chair, announced upcoming events, which included an upcoming Hanford History livestream event being held by the Washington State Department of Ecology (Ecology), and the Virtual Public Meeting on Changes to the Tri-Party Agreement (TPA) for Retrieving, Treating and Disposing of Hanford Site Waste. He invited the present Ecology representatives to provide additional detail.

Ryan Miller, Ecology, discussed the Hanford History livestream event, which would be hosted on Facebook and focused on early Hanford history. It was set to air at 5:00 PM Pacific that same night, May 11, 2021. Dana Gribble, Hanford Mission Integration Solutions (HMIS), confirmed the date and time of the virtual public meeting, to be held on May 13, 2021 at 5:30PM Pacific, and provided a link in through the Microsoft Teams chat for the meeting participants to learn more.

Tom confirmed that there were no further announcements to discuss. He questioned the need to approve the summary from a recent RAP call held on April 27, 2021. Ruth stated that she expected to share the call with the committee but did not believe it required approval unless substantial errors were found. Gary Younger, DOE, agreed and stated that he would seek confirmation for that expectation.

324 Building Update

Ben Vannah, Project Engineer for the 324 Building Project with the DOE Richland Operations Office (DOE-RL), provided a briefing on the status of the project.

He began the presentation with a safety topic, focusing on the purpose and benefit of pre-job briefings. He noted that they are required for all Hanford Site project activities. They consisted of discussion of work to be performed, utilizing the associated Radiation Work Permit and procedures for the job. The pre-job briefings ensured that workers understand the work to be performed, their individual responsibilities, and potential hazards, allowing them to safety perform the work as planned. The briefings provided time for open discussion and questions for each member of the work team. Ben noted that similar briefings could provide benefits when used in a home setting as well.

Ben moved onto the purpose the of the briefing, which included an overview of corrective actions that had been implemented at the 324 Building and the outline for resumption of activities, including the path forward on the project. He stated that this information would allow the HAB to continue to pursue policy-level discussions regarding the Columbia River corridor risk-reduction activities.

He discussed the background of the project, noting that the building was initially constructed in 1966 for the purpose of supporting radioactive material research. The project, at time of presentation, involved removal of highly radioactive, contaminated soil from below the building. In its present state, the contamination posed no risk to the surrounding area as it was shielded from rain by the 324 Building structure. The soil remediation efforts would ultimately allow for safe demolition of the facility.

The 324 Building was subject to a stop work order in 2019 resulting from an unacceptable trend of contamination events. There was approximately one radiological contamination event per month prior; though there were no measurable uptakes by workers, the project management determined work stoppage was necessary to prevent the trend from continuing.

Subject matter experts (SMEs), radiation control technicians (RCTs), and other consultants were engaged to assist in determining the necessary corrective actions for the project. They reviewed videos of work performance, met with workers, reviewed procedures, and gathered information from additional sources. The consultants met with personnel at all levels of the project in development of the corrective actions, which ultimately included approximately 50 items, 23 of which required completion prior to resuming project activities.

Workers on the project now attend seven related training courses, which include hands-on demonstrations of project activities. The Maintenance and Storage Facility and the 324 Building mockup facility were altered to accommodate the new training with new features such as a complete recreation of the B Cell, the airlock used for waste containers, Room 18, and a route for doffing Personal Protective Equipment (PPE). The project mockups would allow workers to safety train and test equipment for each step of the work package before performing work in a radiological environment. The training helped work crews to become more confident and proficient in the work processes, a necessity for restarting work.

An additional result of the corrective actions effort was an improvement in safety culture. During the investigation, it was discovered that some workers felt schedule pressure. The project team was working to ensure that workers maintained a questioning attitude and that safety remained a priority as work resumed. The project was taking a three-phase approach to resuming work, starting with the lowest-risk items, then moving to medium-risk and subsequently high-risk work, ensuring that work crews were comfortable with the processes at each stage.

Management processes were updated to be more effective in identification of trends, taking into consideration the root cause of previous events. The project intends to engage more independent assessments in the future.

Updates and changes to PPE used for site-specific activities was considered in the corrective actions. Input from workers was gathered in this examination with varied results; workers assigned to certain tasks were pleased with the initial set of PPE, while those on other tasks identified improvements that could be implemented.

Ben provided a video that demonstrated the new risk reduction measures taking place on the project, available at: https://www.youtube.com/watch?v=UHVLGMuJ18k.

Ben concluded that, with the completion of the enhanced facility-specific training, workers were able to resume key risk-reduction activities in preparation for the removal of contaminated soil under the 324 Building. The work being performed at time of the briefing accounted for the first significant progress-focused tasks that had occurred since the project was paused in November of 2019 following the series of low-level contamination occurrences. The 324 Building mockup continued to be a key part of progress, providing a safe environment for training on processes and equipment before work occurred in a radiological environment. He noted that COVID continued to impact progress, though measures had been put in place to mitigate related risk factors.

Regulatory Perspectives

Robert Armijo, US Environmental Protection Agency (EPA), stated that he had no questions or concerns.

Ginger Wireman, Ecology, stated that she had no questions or concerns and was happy to see that the work was continuing.

Committee Discussion

Shelley Cimon, Columbia RiverKeeper, thanked Ben for the presentation and expressed that she thought the mockup facility to be a brilliant concept that had proven its worth at Hanford. She believed that the complexity of cleanup demanded the specificity that the mockup allowed and hoped it would continue to reduce worker risk.

Shelley asked for clarification regarding waste placement, wondering if B Cell was at some point the intended storage location. Ben clarified that the B Cell was one of four hot cells within the 324 Building. It initially served as an area for experimentation with nuclear materials and was subject hazardous material spills amounting to several liters. The contaminated solution was very acidic and ultimately ate through the B Cell floor, contaminating the soil beneath. Subsequently, the B Cell became a dumping ground for contaminated equipment; there is still debris in the grout.

Ben stated that, during remediation of the B Cell, cuts would be taken from the floor and tested to determine if they would be suitable for disposal at the Environmental Restoration Disposal Facility (ERDF) as opposed to the surrounding hot cells (A Cell, C Cell, and D Cell), each of which feature 4-foot-thick concrete walls rated for one million rads. Each of those hot cells would ultimately be cut out and shipped to ERDF as monoliths.

Tom Sicilia thanked Ben for the presentation and noted that it was great to hear that work had restarted, PPE was available, and that the project downtime had been effectively utilized. He asked if there was a 3D visualization of the contamination beneath B Cell that could be shared. Ben clarified that there was no 3D visualization available, though Pacific Northwest National Laboratory (PNNL) has developed a 2D visualization that could be provided at a later time. Ben noted that he would be willing to provide a future briefing with a focus on the soil contamination.

Tom Sicilia asked about the status of water utilization for dust suppression. Ben stated that that process was paused as a result of the stop work resulting from the COVID pandemic and had a new expected start date of 2023. CH2M Hill Plateau Remediation Company (CHPRC) performed a revision prior to contract transition that indicating that use of 700 gallons of water would be safe. Ben noted that his team would reexamine the water usage to assure minimal risk to groundwater.

Tom Galioto, Public at Large, asked if there were additional prerequisites that still needed to be met prior to site cleanup resuming in October of 2021. Ben stated that there were multiple activities that would be occurring in parallel. Crews were preparing for micropile drilling as part of a B Cell structural modification effort and that within a month of presentation, the stop work on the planned airlock work would be lifted. Ben noted that, due to contract transition, the 324 Building project lost approximately half of its staff of RCTs and was working to mitigate the issues presented by reduction in staff.

Tom Galioto asked for clarification on the work that was expected to occur starting in October 2021. Ben stated that work at that time would consist of removing debris from the B Cell floor, with expected completion by June of 2022. Subsequent work would involve cutting out portions of the floor. Accounting for the expected completion time for B Cell structural modifications, soil excavation was expected to begin in September of 2023.

Tom Galioto noted that expected completion dates were much further out than stated previous forecasts. Ben clarified that expected completion for soil removal and packaging was in the year 2024. One of the

results of the correction actions was a resequencing of work activities, resulting in fewer tasks being performed in parallel and a deliberate slowdown in work being performed due to concern for worker safety.

Liz Mattson, Hanford Challenge, thanked Ben for his perspective. She wondered if increased funding for the 324 Building project would be beneficial. Ben noted that the placement of the 324 Building project among the Hanford Site priorities allowed to the project to receive the appropriate level of funding. Mark French, DOE, confirmed that the project was receiving adequate funding and that additional funding would not allow the project to progress any faster.

Chris Sutton, Public at Large, noted that the latest five-year plan for the Hanford Site showed that decommissioning, deactivation, decontamination, and demolition services (D4) in the year 2025 and wondered if that was still a reasonable expectation after the project resequencing. Ben stated that the date for D4 was sliding out as a result of schedule impacts related to COVID and contract transition-related staffing challenges. Formal dates would be negotiated with regulatory agencies as the project progressed; Ben noted the potential for the planned date of 2024 for soil remediation potentially moving back one year.

Pam Larsen, City of Richland, recalled a previous opportunity to view the facility, noting that she was surprised by the contents of the B Cell. She asked if the multi-story equipment rack that had been present was dismantled. Ben stated that the equipment had been pulled of the walls utilizing an excavator arm and size reduced for packaging. Removal of debris and grout was at approximately 25% completion and testing would be performed to determine the appropriate disposal site.

Rob Davis, City of Pasco, questioned the radiation testing methods, noting the potential for transuranic (TRU) waste in the soil. Ben stated that two soil samples from B Cell had been taken and characterized. Analysis showed that the samples primarily consisted of cesium and strontium, with low levels of alpha radiation. The radiological engineers determined that packaging based on radiation levels would meet the necessary criteria. Rob believed that TRU waste was likely to be present based on the history of the site and wondered if those samples were representative. Ben acknowledged the possibility, clarifying that sampling and characterization was a continuing effort and that the project would benefit from quick turnaround on samples as the 325 Building, in near proximity to the 324 Building, would provide sample analysis.

Tom Sicilia offered additional questions. First, he asked about the status of the micropiling efforts for B Cell foundational support. Ben noted that activities had resumed in Room 18, which consisted of preparatory work to allow drilling to begin. Tom Sicilia noted that, during a recent Executive Issues Committee (EIC) workshop, Brian Vance, DOE, mentioned that the HAB should be looking at activities two to three years into the future in order to provide timely advice. He asked if there were any forecasted items for the 324 Building project within that timeframe that could potentially benefit from HAB advice. Ben stated that he would benefit the most from understanding where the 324 Building project would fall in regard to HAB's site-wide priority list.

Ruth relayed a question posed by Dori Luzzo Gilmour, Public at Large. She wanted to know what was being done on the project to ensure workers were safe in regard to COVID-19. Ben stated that the project had been halted while a COVID-related PPE shortage had passed, transitioned many staff to telework, and allowed for social distancing within workspaces and offices. Social distancing efforts included increasing the amount of available workspace by adding additional trailers, installing plexiglass separators, and redesigning office space and worker congregation areas to ensure workers could remain in compliance with Centers for Disease Control (CDC) mandates and recommendations. Workers were

required to wear masks and contact tracing procedures were in place. Management was prepared to slow or stop project work in order to prioritize worker safety.

Tom Galioto asked if a detailed project schedule could be provided to RAP. Ben agreed to present one in a future briefing, as it was currently being updated and finalized to account for the loss of RCTs and COVID impacts.

Liz asked if the contamination depth beneath B Cell was known. Ben stated that the data was gathered by probes beneath the facility; the maximum depth of contamination was 22 feet, where contamination was minimal, and the highest concentrations were within the seven- to eight-foot range. Beyond the highest concentrations of contamination, open air excavation could be performed. Ben also noted that groundwater was approximately 45 feet beneath the facility.

Liz asked what the current milestone date for 324 Building completion was. Ben stated that the current TPA milestone was in 2025 but expected that the project would not be complete by that date.

Liz noted concern with the high-level waste being shipped to ERDF and considered the need for an additional presentation on waste characterization efforts for the project. Ben stated that he could provide a presentation on what is known of the waste present at the site, characterization processes, and waste acceptance criteria in the future.

100-KR-4 Groundwater Operable Unit Explanation of Significant Differences

Ellwood Glossbrenner, DOE, provided a presentation on the 100-KR-4 Groundwater Operable Unit (OU) Explanation of Significant Differences (ESD). His presentation began with a safety message that focused on home office ergonomics, which primarily consisted of the ideal sitting position for computer use.

He noted that his briefing was a follow up from a previous briefing that was presented to the HAB and would serve as an informational update on groundwater remediation activities. The ESD addressed two primary changes: the addition of soil flushing at the 183.1KE Headhouse area as an enhancement to the existing pump and treat remedy and served to update the overall cost. The ESD aligned with planning for a final Record of Decision (ROD) for the 100K Area and allowed for soil flushing to be implemented sooner.

The process history and groundwater monitoring indicated a continuing source of hexavalent chromium contamination at the Headhouse. Soil flushing consists of water allocation near the ground to push contamination to groundwater for remediation by the existing pump and treat systems. A soil flushing treatability test began in 2019 at the 183.1KW Headhouse and was shown to be effective in removal of residual hexavalent chromium, with 38.13 pounds removed in seven months as opposed to 16.75 pounds in the preceding calendar year. It was expected that soil flushing would improve remediation cost efficiency and accelerate the removal of hexavalent chromium contamination. Without soil flushing implementation, pump and treat operations could be required for an additional 20 years or more.

Ellwood showed photos of the soil flushing system, pointing out the distribution pipes and coverings, value boxes, distribution piping means of bypassing obstructions, and the injection well and leach field manifold. He explained the contents of a graph of the maximum concentrations of hexavalent chromium throughout the testing phases to demonstrate the observed benefits of the soil flushing tests.

He further explained the update to the overall remedy cost, stating that the ESD included an increased overall cost that was based on system expansions and continued operational costs, which included operations costs in 2019 and estimated cost through projected end of pump and treat operations in 2023. The ESD overall remedy included cost savings resulting from soil flushing at the KE Headhouse. He

noted the comparison of costs between the 2021 ESD against previous ESDs issued in 1996 and 2009. The 2021 ESD actual and estimated future costs totaled $240.7 million.

DOE and EPA were working on a remedial investigation and feasibility study (RI/FS) that would support the final ROD for the 100 K Area, with public review of a proposed plan expected to be available in 2022. He noted that the soil flushing enhancement for the interim-action ROD supported accelerated groundwater cleanup and aligned with final ROD planning. The operational duration used in the pump and treat cost updated was based on final ROD planning.

Looking forward, the ESD was expected to be finalized by the end of fiscal year 2021. DOE would publish a notification of the final document and include it in the administrative record. The associated remedial action work plan would be updated and undergo EPA review and approval. Construction and soil flushing operations were expected to be implemented in 2022.

To summarize, Ellwood stated that the treatability testing showed that soil flushing was effective in removal of hexavalent chromium contamination at the 183.1KW Headhouse and that the ESD allows for soil flushing at the 183.1KE Headhouse, supporting accelerated groundwater cleanup.

Regulatory Perspectives

Roberto noted major concerns from the draft ESD, stating that the first draft was vague on the physical application of soil flushing and that it was vague in cost language. EPA had sent the draft back to DOE with comments and hoped to hear back by the end of May in order to stay on track for the fiscal year 2021 schedule.

Dib Goswami, Ecology, believed that the report was well written, but wanted clarification on the cost. He noted that 38.13 pounds of hexavalent chromium was removed in seven months, a considerable increase over the 16.75 in the preceding calendar year. Dib wanted to know why the completion date was so far out, considering that remediation efficiency increase that soil flushing offered and the remaining waste volume in the area. Ellwood and Jason Capron, DOE, explained that the date extension listed to 2032 listed in the ESD was based on the entire pump and treat system in the K Area, rather than the 183.1KE Headhouse alone. Additionally, the cost listed in the ESD was the cumulative cost of all pump and treat operations on the K Area through completion and accounted for the cost savings associated with soil flushing.

Committee Discussion

Tom Sicilia noted that he saw the soil flushing tests to be a success story for *in situ* remediation but wondered if there were non-target compounds that could be mobilized during soil flushing operations. Additionally, he wondered about DOE's confidence that the capture zone for the KE plume would catch all the present hexavalent chrome. Ellwood noted that no other constituents of chrome had been captured in the past and, were additional hexavalent chrome discovered outside of the capture zone, the existing monitoring wells in surrounding areas could be converted to extraction wells.

Marissa Merker, Nez Perce Tribe, asked who monitored the wells and extraction systems, wondering if the company responsible was the same as that which was responsible for design. If they were the same entity, she wondered if there would be a conflict of interest, as they would be monitoring their own system rather than a third party. Ellwood stated that the current Central Plateau remediation contractor, Central Plateau Cleanup Company, LLC (CPCCo), was monitoring and operating the wells, and they were designed by the prior contractor, CHPRC. He noted that many of the involved personnel at CHRPC migrated to CPCCo during transition. He did not believe it to be a conflict of interest as all sampling

results were validated by an off-site laboratory. Laura Buelow, EPA, confirmed that all sampling requirements for the project are approved by both EPA and Ecology.

Shelley wondered if additional monitoring or extraction wells would be necessary to determine the sufficiency of the defined capture zone. Ellwood stated that they were confident in the extraction well capture zone and noted that monitoring wells in surrounding areas are already in place with potential for conversion to extraction wells, if needed. Shelly asked how long the conversation would take. Jason Holstrom stated that, due to the proximity of the wells to the gallery, the estimated time required was three months. Shelley wondered how agile the project could be in addition of new extraction wells, if required, based on funding. Ellwood stated that the K Areas were high on the priorities list for DOE, based on the results of the annual budget call.

Rob commended the pump and treat efforts and asked if DOE thought the program would expand over the next ten years, perhaps for use in treatment of the uranium plume in the 300 Area. Ellwood stated that the technique used in the 300 Area was different, so the pump and treat system would not likely be used for flushing uranium.

Central Waste Complex – Inspections and Schedule

Jared Mathey, Ecology, provided a presentation on the dangerous waste compliance inspections performed at the Central Waste Complex (CWC).

He noted that Annual Compliance Evaluation Inspections (CEI) are required for federal facilities. At Hanford, Ecology inspects approximately 30 Treatment, Storage, Disposal unit groups on an annual basis, typically consisting of multiple hazardous waste management units (HWMU). He noted that, as an example, 149 single shell tanks, along with the associated equipment and facilities, comprise a single unit group. He explained that they tracked violations through the EPA's RCRAInfo database. Ecology utilized a mix of formal and informal enforcement methods to ensure a Return to Compliance (RTC). Additionally, Ecology inspects 20% of the approximately 60 Central Accumulation Areas not included in the permit as HWMUs.

In performing Hanford Site inspections, Ecology's project manager and staff identify possible issues to include in the inspection scope, which were peer reviewed. For unit groups with multiple HWMUs, Ecology may rotate between different areas or return to a prior problem area to confirm RTC.

The CWC facility consisted of approximately 43 buildings and structures and house over 10,000 individual waste containers. Outside storage containers within the CWC bounds were to be retrieved per the M-91 milestone series, though the adjacent outside storage area for the Plutonium Finishing Plant (PFP) was subject to Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) rather than M-91.

Referencing an inspection that occurred in 2017, Ecology focused on container labeling, the condition of containers, general inspection records, related cost estimates, waste minimization efforts, training, on-site treatment, operating records, and contingency plans. Multiple non-compliances were discovered, including risk and hazard labelling insufficiencies in regard to waste codes, the condition of containers, incomplete Dangerous Waste Training Plans without reference to specific job positions, and a failure to provide the requested operating records. Each discovered non-compliance was resolved by the end of the following year. Jared presented photos from the initial and follow up inspections. He noted that the specifics to the risk labeling resolution was available in a letter available through the Administrative Record: https://pdw.hanford.gov/download/0cef3487-79b0-4613-a1cd-07a4dc10d285

Regulatory Perspectives

The present EPA and DOE representatives stated that they had nothing to add.

Committee Discussion

Shelley noted that the HAB had previously put together questions that had not been answered through Jared's presentation. She was curious if the container labels identified the ultimate disposition for each container. Jared confirmed that it is not identified on the label and is instead available in the operating record for each container. John Price, Ecology, clarified that for waste covered by the M-91 milestone series, waste disposition schedules are listed at a high level rather than for individual containers. Further, for waste not covered by the M-91 milestones, Ecology hopes to develop a treatment and disposal schedule. He clarified the defining features of contamination, as opposed to waste, in regard to CERCLA requirements for the purpose of DOE reporting.

Gerry Pollet, Heart of America Northwest, noted the disparity between the waste container photos present in an M-91 fact sheet and those from the inspections. He wondered which was a more accurate representation of waste stored in the CWC. Mark clarified that the waste shown in the fact sheet had been repackaged and was not representative of all waste within the complex. Gerry asked about storage time limitations prior to treatment. Mark stated that mixed waste is sent to Perma-Fix Environmental Services (Perma-Fix) for repackaging, with treatment consisting of removal of prohibited items. Waste designated for the Waste Isolation Pilot Plant (WIPP) was exempt from land disposal requirements, so no rehandling or repackaging would occur for those containers.

Gerry asked about the expected timeline for completion, based on the pace of operations, and the amount of waste expected to go to WIPP versus other disposal sites. Mark stated that the specifics were unknown, though shipment to WIPP was designated to start in 2028 with requirement for completion by 2040, based on the M-91 milestones. John clarified that there was waste in the CWC not covered by the M-91 milestone series, such as the waste included in the M-26 Land Disposal Report. Jared noted that the bulk majority of the waste within CWC and the Waste Receiving and Processing Facility (WRAP) is designated for WIPP; there are containers present that can be treated and disposed of on the Hanford Site, but it did not account for a large portion of the total. Mark continued, explaining that there were requirements for how quickly waste must be treated and disposed of; the project continued to work through its backlog, making continual progress.

Shelley asked if there was comprehensive plan that accounted for TRU and Mixed TRU waste outside of the CWC, such as the waste located in the Hanford Site burial grounds and asked if that was included in the five- or ten-year program plans to ensure that the site can ultimately dispose of its total TRU waste volume. Mark clarified that the M-91 milestone series provided the holistic plan for TRU waste retrieval and disposition across the site. He explained that WIPP was committed to being open and accepting waste until the year 2050, and possibly later, but Hanford is in queue for waste storage alongside the other sites within the DOE complex.

Shelley asked when characterization efforts were expected. Mark stated that those were ongoing and have included shipment of waste to Perma-Fix and non-destructive assay of waste. He expected a bigger characterization effort in the coming years. John addressed Shelley's question from the perspective of soil characterization, noting that it would require coordination of the waste schedule for CERCLA-treated waste against M-91-related waste.

Shelley expressed her worries that WIPP would become an option for other types of waste storage and the potential for Hanford to lose its position among WIPP's priorities. She worries that DOE sites may lose their collective voice as other sites close. Mark assured her that he expected Hanford to be among the primary waste shippers to WIPP going into the 2030s and that WIPP will want a continuous waste stream coming in; he felt that would only strengthen Hanford's voice. Pam assured her that she is familiar with the Carlsbad Site (WIPP) and knows that Hanford is part of their vision.

Tom Sicilia stated that he felt encouraged by seeing the collaboration between the TPA agencies. He wondered if there was a way that RAP could support their ongoing efforts by providing advice or comment to WIPP, unsure if they would find that helpful or felt it was an overstep in boundaries. Mark noted that the HAB could engage WIPP through public comment periods, though he was confident that WIPP would remain open and accept Hanford waste for as long as there was Hanford waste to accept.

Rob noted concern over complete reliance on WIPP, considering a previous accident at the facility. Mark stated that the incident resulted in many corrective actions related to characterization and examination of incompatible materials. He believed that the related problems would likely be resolved or effectively mitigated.

Shelley thanked the DOE representatives and asked for status on the PFP project, wondering if characterization of the soil underneath the slab would occur. Mark stated that they expect to find contaminated piping and soil but was presently unsure of the details. He expected that his team would inherit that scope in the future.

Dan Solitz, Oregon Hanford Cleanup Board, asked if the Land Withdrawal Act would impact Hanford's ability to store waste at WIPP, noting worries related to the total capacity of WIPP. Mark clarified that WIPP intended to be open as long as needed but could not confirm the situation beyond the year 2050. Pam noted that there were several permit changes in play that were the prerogative of the state of New Mexico, while there were others that were the prerogative of Congress. She intended to research the subject for use in the National Liaisons Report, which she would provide in the following RAP meeting.

Open Forum

Liz provided an update on the Public Involvement and Communications Committee (PIC), noting that in the upcoming PIC meeting the committee intended to discuss the structure of HAB advice with intention of making advice more concise without losing context. RAP members were invited to join and listen.

Tom Silicia noted a request by Vince Panesko, City of Richland, who was not present. Vince wanted to see additional information about the Composite Analysis, including a list of supporting documents, and wished to see plutonium added to the Composite Analysis. Tom was unsure if the supporting documents would be available in the Administrative Record.

Chris noted that the information contained in the Composite Analysis aligned with the information provided within the Cumulative Impact Analysis, with both reports being modelling-based, which made a logical grouping for DOE's presentation on the subject.

Liz asked when the presentation on the Cumulative Impact Analysis could be added to the HAB calendar. Gary stated that he was unsure of the timeline and would investigate.

Chris wondered if it would be worthwhile to have a briefing and discussion on Tier 2 buildings planned for D4. He noted that he had not heard the topic discussed within his time with the HAB. Tom Sicilia confirmed that the RAP received a briefing on the subject in 2019 and expected that they would receive and update when the effort was beyond foundational stages. He noted that a recent public comment period

on the Engineering Evaluation/Cost Analysis (EE/CA) on Proposed Alternatives for 200 West Area Tier 2 Buildings/Structures Removal Action contained related information and may be worth watching to see what further documents are released.

Gerry provided thoughts on the M-91 milestone series, noting that there were many aspects that would benefit from further examination and could be a subject for future HAB advice. Among his worries were the conditions of the waste storage within the CWC, the characterization schedule, and risks associated with outdoor waste storage. The committee created an Issue Manager (IM) team to further examine the subject, with Gerry, Tom Sicilia, Chris, and Pam all volunteering. Gerry agreed to develop an initial mission statement for the IM team.

Ruth reminded the committee that IM teams now had the ability to meet on their own schedule and terms, hosting their conversations as they saw fit. Gary clarified that SMEs could be brought in to speak in those unfacilitated meetings.

Liz wondered if there had been updates on the Committee of the Whole topic. Gary confirmed that it was placed on the draft calendar for fiscal year 2022, placed after the Leadership Workshop in May, though subject to change.

Ruth noted that the HAB Library had transferred to a new location.

Chris considered a previous discussion on the RCT shortage on the 324 Building project and the associated schedule impact, wondering if that same problem was affecting other projects on the Hanford Site such as PFP and other D4 efforts. Liz wondered the committee could get a briefing on an overall subject of workforce retention. Gary agreed to request the briefing.

Rob noted that the subjects of the day's meetings did not focus on risk in relation to actions taken. He saw risk a common denominator, considering the potential risk reductions associated with waste shipment to Perma-Fix, WIPP, or other disposal sites. Tom Sicilia noted that the latest budgets were considering lifecycle costs for various projects. He believed that continual communication of lifecycle costs would be beneficial and result in fewer surprises.

Committee Business

Tom Sicilia provided a summary of discussions and outcomes from the recent HAB Leadership Workshop. He reviewed the draft HAB workplan for the following year, noting how potential topics were categorized and pointing out topics that could involve joint meetings with the Tank Waste Committee (TWC). Going forward, he hoped to get a detailed breakdown of the five-year plan "headline" items to determine which topics would benefit from examination in order to provide advice in a timely manner.

Chris suggested adding the results of the M-15 milestone negotiations to the list of topics. He wanted to consider how the risk budget fit into topics, though left the idea "on the table" for the time being, noting that it could be a cross-cutting issue.

Tom Sicilia invited committee comments on RAP priorities going forward.

Liz wondered if the Resource Conservation and Recovery Act (RCRA) sitewide permit was expected to release in 2022. She noted that it could be a cross-cutting issue and would follow up in an upcoming PIC meeting. Ryan stated that he did not know immediately and would check. He followed up later stating that it was still planned for 2022, but there were potential challenges that could impact the schedule.

Pam requested clarification on the which items in the draft workplan the RAP hoped to receive briefings on, noting that the list was extensive. Tom clarified that they did not; the list consisted of items of interest. The committee proceeded to discuss the list, finding means of truncating the list.

Chris noted that there was an M-24 milestone that related to DOE and contractor agreements for annual well drilling, typically resulting in approximately 30 new wells. He hoped to get annual updates on the topic, including the number of wells drilled and well types. Tom wondered if there was a fact sheet that featured results from that agreement, while Rob considered the possibility of extracting that data from system plans or similar documents. The committee agreed to look into the options.

Chris reiterated a statement by Brian Vance regarding timely advice, stating that topics should be examined two to three years out. Rob asked for further context in future planning. Tom Sicilia stated that they wanted to receive high-level overviews to examine broad or "big picture" issues but recognized the need for presentations on individual waste sites and projects in order to identify issues. Ruth noted that "big picture" issues tended to have overlap between projects, such as groundwater-related issues.

Considering Ruth's statement on overlap, Chris recalled the Statement of Work (SOW) for CPCCo, noting that it contained a new section that required the contractor to examine sites and projects in a holistic fashion. He wondered if that was an attempt by DOE to address the overlap and thought it could be interesting to know how the DOE and contractor were looking at the sites and projects in an integrated, holistic fashion. In further examination, he noted that the related SOW section required integrated baseline schedules for various sites and thought it may be a potential topic for future HAB advice.

Liz considered clarifying the purpose of the topics list within the draft work plan, hoping to clearly state that they were topics of intertest rather than topics on which the RAP expected to receive briefings. Gary noted that it would be helpful for the committee to arrange the list by importance to allow DOE to prioritize presentations. Ruth considered a possible tie-in with existing priority lists. Tom Sicilia agreed to discuss the issue further with the EIC, as the priority lists have affected the HAB as a whole.

Liz wondered if the Liquid Effluent Retention Facility (LERF) and Effluent Treatment Facility (ETF) groundwater management plan would be available in time for the following RAP meeting. She wanted to consider it as a possible topic of discussion. Tom Sicilia wondered when the K Area ROD would be available. Ginger agreed to look into each.

Liz asked what lead time was necessary for DOE presentations. Gary confirmed 30 days at minimum were required for a DOE presentation.

Tom Sicilia considered the possibility of having high-level discussions on contract transitions, if enough time had passed to gain first impressions. He noted that he hoped to follow up on the RAP agenda for August 2021 during a call scheduled for June 23, 2021.

Attachments

Attachment 1: River and Plateau agenda

Attachment 2: Draft Meeting Summary from RAP April 13, 2021 Meeting

Attachment 3: Key Risk-Reduction Work Resumes at 324 Building

Attachment 4: 100-KR-4 Groundwater Operable Unit Explanation of Significant Differences Overview

Attachment 5: Central Waste Complex (CWC)

Attendees

Board Members and Alternates:

Shelley Cimon, Primary	Rob Davis, Primary	Tom Galioto, Primary
Dori Luzzo Gilmour, Primary	Pam Larsen, Primary	Liz Mattson, Primary
Gerry Pollet, Primary	Bob Suyama, Primary	Dan Solitz, Primary
Jan Catrell, Alternate	Chris Sutton, Alternate	Tom Sicilia, Alternate
Marissa Merker, Alternate		

Others:

Stan Branch, DOE	Alicia Boyd, Ecology,	Megan Babcock, DOH
Jason Capron, DOE	Kelly Elsethagen, Ecology,	Abigail Zilar, GSSC for DOE
Kelly Ebert, DOE	Edward Holbrook, Ecology,	Patrick Conrad, HMIS
Mark French, DOE	Jared Mathey, Ecology,	Coleen Drinkard, HMIS
Elwood Glossbrenner, DOE	Dib Goswami, Ecology,	Dana Gribble, HMIS
Benjamin Vannah, DOE	Ryan Miller, Ecology,	Simone Anter, Columbia Riverkeeper
Gary Younger, DOE	John Price, Ecology,	McClure Tosch, YN ERWM
	Ginger Wireman, Ecology,	Li Wang, YN ERWM
	Roberto Armijo, EPA	KB
	Laura Buelow, EPA	Dieter Bohrmann
		Gabriel Bohnee
		Matthew Campbell
		Jennifer Colborn
		Mike Douglas
		Jason Holstrom
		Denise Jones
		Mason Murphy
		Emily Macdonald
		Kelsey Miller
		Stuart Mortensen
		Lisa Zaccaria

		Scott Fillmon, HAB Facilitation Team
		Ruth Nicholson, HAB Facilitation Team
		Joshua Patnaude, HAB Facilitation Team

Note: Participants for this virtual meeting were asked to sign in with their name and affiliation in the chat box of Microsoft Teams. Not all attendees shared this information. The attendance list reflects what information was collected at the meeting.